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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,604	07/07/2003	Naomi M. Jenkins	2000.107500/TT5487	7792

23720 7590 02/28/2005

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EXAMINER	
VO, HIEN XUAN	
ART UNIT	**PAPER NUMBER**
2863	

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/614,604	JENKINS ET AL.	
	Examiner	Art Unit	
	Hien X. Vo	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,13,14,16-18,20-23,25-33 and 38-43* is/are rejected.

7)☒ Claim(s) *9-12,15,19,24 and 34-37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 13-14, 16-18, 20-23, 25-33 and 38-43 rejected under 35 U.S.C. 103(a) as being unpatentable over Pasadyn et al. (U.S. Patent No. 6,773,931) and in view of Mih et al. (U.S. Patent No. 6,407,396).

With respect to claims 1, 13, Pasadyn et al. disclose a dynamic targeting for a process control system that includes performing a process step upon a batch of workpieces using a processing tool (see e.g. abstract), performing a tool state analysis upon the processing tool (see e.g. col. Col. 3, lines 40-43) except for teaching a dynamic metrology routing adjustment process based upon the tool state analysis, the dynamic metrology routing adjustment process further comprises correlating the tool state analysis to the batch of workpieces and adjusting a metrology routing based upon the correlation. However, Mih et al. disclose a wafer metrology structure including a dynamic metrology routing adjustment process based upon the tool state analysis, the dynamic metrology routing adjustment process further comprises correlating the tool

state analysis to the batch of workpieces and adjusting a metrology routing based upon the correlation (see e.g. Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify system of Pasadyn et al. by the wafer metrology structure as taught by Mih et al. to overcome and perform separate critical dimension measurement for each pattern formed within a semiconductor device in addition to separate overlay measurement.

With respect to claims 2-5, 14, 18, 21, 23, 25, 30 Pasadyn et al. disclose the invention as claimed including the process step upon the batch of workpieces further comprises performing the process step upon a batch of semiconductor wafers (see e.g. col. 13. lines 55-57), the tool state analysis upon the processing tool further comprises acquiring tool state data (see e.g. col. 14, lines 10-14), the tool state data further comprises acquiring at least one of a pressure data, a temperature data, a humidity data, and a gas flow rate data relating to the process step performed upon the workpieces (see e.g. col. 2, lines 50-54), the tool state analysis upon the processing tool further comprises performing a tool health analysis relating to the processing tool (see e.g. col. 2, lines 12-20).

With respect to claims 6-8, 31-33, Pasadyn et al. disclose the invention as claimed including a fault detection analysis relating to the processing of the batch, an operation performed by the processing tool, at least one fault relating to the batch (see e.g. col. 2, lines 54-65).

Claims 16, 17, 22, 26 are apparatus claims corresponding to method claims 1-8, 13. Therefore, claims 16, 17, 22, 26 are rejected for the same rationales set forth for claims 1-8, 13.

With respect to claim 20, Pasadyn et al. disclose the invention as claimed including a database unit to store at least one of metrology data, tool state data and the electrical test data (see e.g. Fig. 3. item 340).

With respect to claims 27-29, Pasadyn et al. disclose the invention as claimed including, the process step upon the batch of workpieces further comprises performing the process step upon a batch of semiconductor wafers (see e.g. col. 14, lines 54-55), the tool state analysis upon the processing tool further comprises acquiring tool state data (see e.g. col. 14, lines 43-46), acquiring the tool state data further comprises acquiring at least one of a pressure data, a temperature data, a humidity data, and a gas flow rate data relating to the process step performed upon the workpieces (see e.g. claim 22).

With respect to claims 38-43, the limitations of these claims have been noted in the rejection above. They are therefore consider rejected as set forth above.

Claims 9-12, 15, 19, 24, 34-37 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien X. Vo whose telephone number is (571) 272-2282. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hien Vo

02/22/05

John Barlow
Supervisory Patent Examiner
Technology Center 2800